I. INTRODUCTION AND EXECUTIVE SUMMARY

A. PROJECT TEAM AND METHODOLOGY

The intent of this project, as established by the Capitol Preservation Board (CPB) in the scope of work contained in its request for proposals, is to assess the existing conditions and renovation needs at the State Capitol and grounds, and to make comprehensive recommendations for needed work to be done in each of several categories. In order to accomplish the overall project objectives and the specific requirements of the scope of work, Cooper/Roberts Architects assembled a multi-disciplinary team of consultants. The team consists of the following nineteen firms or individuals and their associated areas of expertise on this project:

Cooper/Roberts Architects: Historical Architects and Project Managers

Carey & Co., Inc.: Historical Architecture Consultant

Reaveley Engineers & Associates: Structural Engineering

Forell/Elsesser Engineers, Inc.: Structural Engineering Consultant

Bennion Associates Engineers: Mechanical (heating, cooling, plumbing) Engineering

Spectrum Professional Services, Inc.: Electrical, Communications and Security Engineering

The Sear-Brown Group: Traffic, Parking and Civil Engineering

Swaner Design, Inc.: Landscape Architect

Restoration Associates Limited: Architectural Conservator and Finishes Analyst

Consortium West, Inc.: Interpretive Planning, Monuments and Arts Analyst

AccessAbility, Inc.: ADA Analyst

Van Duesen & Associates: Vertical Transportation (elevators) Analyst

Rolf Jensen & Associates: Life Safety Consultant

The Omni Group: Governmental Space Programmers

Construction Control Corporation: Cost Estimating

Martha Bradley, Ph.D.: Architectural Historian

Michael Moore: Architectural Photographer

Federal Protective Service: Security Consultant

IHI Environmental: Environmental Consultant

The last two firms listed were commissioned separately by the State to complete reports independently of the Cooper/Roberts study. So as to provide the reader with a single-source reference document, all or parts of the security and environmental reports have been included in or summarized in this document.

This project was completed in stages, with verbal presentations and written rough draft reports submitted and reviewed by the Capitol Preservation Board at the 33%, 50% and 100% completion stages. The study format included for most consultants the following work:

1. Introduction and historic background
2. Documentation of existing conditions, including recordation on survey forms
3. Applicable standards and codes
4. Alternative solutions
5. Recommendations

At each of these steps, the team's work was either summarized in verbal presentations made to the Capitol Preservation Board (CPB) and/or presented in written draft reports. In each instance, members of the CPB prepared review comments and submitted them to David Hart, executive director of the board. The comments were then compiled into typed summaries and returned to the A/E team. The team's members then revised or expanded their drafts in response to reviewer's comments. This process was repeated until the finished draft was written, edited and printed.

Upon completion of the recommendations, a matrix chart summarizing the key recommendations was prepared for each discipline and included in the executive summary. The work recommended in the matrices was justified on the basis of satisfying one or more of the three primary project needs, i.e., enhanced safety, enhanced functionality, or enhanced preservation. The recommendations were also provided in an outline scope of work which became the basis for the overall project cost estimate.

For easier accessibility to the primary content of the report, an executive summary has been included containing the aforementioned matrices and narrative summaries of each of the major areas of study. The ensuing volumes contain the expanded categorical reports prepared by each of the sub-consulting firms on the team. Also included in this document is an extensive appendix containing survey materials, related reports, charts, drawings, and technical data supporting the narratives in the main text.

Our purpose has been to provide a guiding document and planning tool which satisfies all levels of interest from basic to highly technical. It is hoped that the interested casual reader will become familiar with at least the content of the executive summary. Readers with a high interest or involvement in the project will want to read the detailed, expanded categorical reports in the middle volumes. Readers interested in the technical support data and detailed surveys may scrutinize the contents of the appendix.

B. EXECUTIVE SUMMARY

INTRODUCTION TO THE EXECUTIVE SUMMARY

The purpose of this Executive Summary is provide a shorter, more easily understood synopsis of the larger amount of material found in the main text of this report. Both the text and the executive summary are organized categorically with one or more sections written by each of the team's consultants.

While the main text provides a categorical format that includes applicable standards, existing conditions, alternatives, analysis, and recommendations for each subject, the executive summary briefly mentions the analysis and focuses primarily on the recommendations for each subject.

The Executive Summary begins with the General Project Summary and three position statements on enhancing safety, function and preservation. These were written at the beginning of the project and they continue to represent the key ideas and principles which have guided our work throughout the study.

Next come an abbreviated history of the Capitol's construction, followed by fifteen individual executive summaries. These are presented in the same order they appear in the main body of the text. Summaries have not been provided for the construction history or photographic sections since they do not involve recommendations. For readers who want considerably more detail for any subject, they are referred to the expanded treatments in the main text.

The Executive Summary concludes with Evaluation Matrices. These are categorical charts which present the basic recommendations being made in this report. Each item is evaluated in terms of its value in satisfying one or more of the three justifications for the Capitol restoration project, namely safety, function and preservation.

The Capitol Preservation Board will distribute the project cost estimate at a future date.

2. GENERAL PROJECT SUMMARY

Although Utah's magnificent Capitol has served well as the seat of state government since its dedication in 1916, renovation of the building and grounds is needed to better accommodate safety and functional standards and the demands of subsequent growth. Given the importance and complexity of its use, and its historical and architectural significance, renovation of the Capitol calls for a comprehensive planning process. This will entail documentation and analysis of existing conditions, and development of recommendations and costs to complete the renovation work needed. Because not all renovation tasks are of equal value in serving the public benefit, these tasks or needs must be prioritized in order of importance. The three general areas of greatest importance are enhancing life safety, improving functional usefulness and preserving historical and architectural integrity.

* ENHANCING LIFE SAFETY

It is essential that the Capitol building provide a safe working environment for its occupants. This report presents alternatives and recommends the most effective ways of achieving the three greatest life safety needs:

* Safety from loss of life due to earthquakes
* Safety from loss of life due to fire and smoke
* Safety from loss of life due to security breaches

* IMPROVE FUNCTIONAL USEFULNESS

This report analyzes the many ways in which the Capitol may be improved to maximize the efficiency of its intended uses and purposes, among them:

* Enhanced space utilization within the Capitol building
* Enhanced circulation for both people and vehicles
* Enhanced accessibility for the disabled
* Improved mechanical, electrical & communication systems
* Improved site utilization
* Improved function of architectural elements

* PRESERVE HISTORICAL & ARCHITECTURAL INTEGRITY

The Neo-Classical Revival Capitol and its formal grounds constitute the single most significant public architecture and landscaping in the state of Utah, and deserves to be preserved for the continued enjoyment of the citizens, visitors and children of this state. A preservation approach to the renovation will both retain the Capitol's existing historic character, and ensure that new work is compatible with the original architecture. Preservation of the Capitol's architectural character may be advanced by completing the following tasks:

* Determine the architect's original design intent; document any changes.
* Determine the original materials, finishes, and colors.
* Document the condition of the existing site, building interior and exterior.
* Recommend needed restoration, renovation and architecturally compatible new work.

a. ENHANCING LIFE SAFETY

Issue Statement

As the seat of state government, the Utah State Capitol building is the work place for several hundred people who work in the facility full time. During the period from January through mid-March when the legislature is in session, several hundred additional people occupy the building both day and night. Among them are groups of students, citizens, officials, lobbyists and other visitors who come to observe or participate in the functions of state government. Given the great importance of the work done in the Capitol and the large number of people who use the facility, it is considered of the highest priority that the safest working environment possible be provided there.

It is essential that the Capitol building be upgraded to guard against loss of life due to earthquake damage, fires and breaches of security. Of these, the greatest potential loss of life would likely occur during a seismic event or another natural disaster when the building is occupied. Although the structure of the Capitol was built using an early form of reinforced concrete, the technology of the time (1912-16) did not include seismic-resistant engineering as required by current building codes. While the entire building is sub-standard seismically, the most structurally vulnerable section is the rotunda area, topped by the tall drum and dome which give the Capitol its stately character. Engineering studies have indicated that the rotunda — an area often occupied by a considerable number of people — would likely collapse during a major earthquake. The mezzanines — also heavily used — are attached to monumental stone columns which are brittle and subject to collapse during an earthquake. Exacerbating the problem is the unforeseen double misfortune that the Capitol was built very near a fault line and in an area of high earthquake acceleration forces.

Scope of Work

A major task in master planning the renovation of the Capitol has been an extensive analysis of how the building may be structurally upgraded to be made so safe that lives will not be lost in a seismic event. Design and cost criteria permits, however, that the building itself may be allowed to experience some damage in the process. Dynamic computer modeling has been prepared to show how the building will perform during an earthquake. Various upgrading options have been examined and the system resulting in the safest building has been recommended. Cost effectiveness and the preservation of historical architecture have been other heavy considerations in determining which method of seismic upgrading to recommend.

Although most of the Capitol's building materials are fire-resistant by design, a major fire in the Capitol could potentially result in loss of life from fire or smoke due to the presence of flammable non-architectural materials. The closure of some exits, the considerable distance to exits, and the lack of sufficient exit signs and fire suppression equipment are all current hazards which are of great concern. The planning team has determined which improvements should be made to satisfy a high standard of fire safety.

Similarly, security issues have been studied and measures recommended to protect the Capitol and its occupants against the kinds of fatal security breaches that have plagued public buildings in other states. At present, security is minimal. Deficiencies are correctable, however, through the implementation of enhanced security policies which will result in greatly improved security technology, equipment and personnel.

b. ENHANCE FUNCTIONAL USEFULNESS

Issue Statement

When the Capitol was built during World War I, it was designed to accommodate a much smaller number of people and functions. Since 1916, the number of legislators, governmental officials and staff, support agencies and functions has expanded considerably without a proportionate increase in the size of the building. Although some original agencies have relocated out of the Capitol, several new agencies have moved in. The State Office Building to the north has not appreciably reduced the pressure on the Capitol. Instead, the Capitol has been modified many times in an effort to accommodate the greater demand placed upon it by the larger number of people and functions within state government.

The Capitol was built with 14-foot post spacing which limits the flexibility of room layout. Numerous remodelings have been done at the expense of both efficiency and the effective operation of government. Some large rooms have been subdivided into several smaller spaces, compromising architectural integrity. Some areas not intended for occupancy (especially in the basement) have been converted to habitable rooms. Other areas originally used as public spaces have been walled off and subdivided into small, cramped, offices. Higher maintenance materials and lower lighting levels have sometimes replaced superior original elements. The end result is a building which handles increased capacity but with serious functional sacrifices which are creating increasingly greater inefficiencies in personal function.

Scope of Work

This master plan analyzes ways in which the Capitol and its site may be upgraded to maximize the efficiency of its intended purposes and functions such that people work more effectively. Recommendations are made for enhancing space utilization and traffic flow on site and in the building. The feasibility of returning to the original office floor layout is evaluated. Assessments are presented of which essential governmental functions need to be in the Capitol or on Capitol Hill, and which might be located off-campus without compromising basic governmental operations.

Recommendations are made as to how the physical facility may be upgraded to enhance user efficiency. Enhanced accessability for the disabled, improved mechanical, electrical and communication systems, and improved layout and distribution of spaces are top considerations.

Among the options considered are whether some now-modified spaces could be beneficially returned to their original sizes and designs, and whether space demands might be best satisfied by the construction of an architecturally compatible addition or stand-alone structure(s) to the north of the Capitol. The pros and cons of housing overcrowded agencies and functions in a more efficient manner in such an addition are evaluated in comparison with other options such as other structures on or off site. The overall goal is to create a facility which will be maximally functional for its present essential uses, as well as for some reasonable period in the future. Anticipated growth has been factored into current space planning equations.

c. PRESERVE HISTORICAL & ARCHITECTURAL INTEGRITY

Issue Statement

The Neo-classical Revival Capitol and its formal grounds constitute the single most significant public architecture and landscaping in the State of Utah. While the grounds have been altered considerably over the past 85 years, most recently through the destructive forces of a tornado, the exterior of the Capitol building has remained largely intact except for its newer windows, re-stuccoed dome, and additions along the lower level of the north wall. Most of the major public spaces of significance have also remained relatively unaltered, except for the House Chambers and House and Senate Lounges and the Governor's Board Room, although many other secondary spaces have been closed off, subdivided or remodeled in ways not consistent with the original character of the building.

Other recently renovated state capitols nationally have chosen to upgrade their buildings for increased safety and efficiency. They have all done so within a context of historical and architectural preservation. The historical and architectural significance of each capitol has been recognized as an enduring legacy worthy of preservation and capable of benefitting the visiting public through educational and interpretative opportunities. Utah's superlative Capitol is likewise a cultural resource deserving of careful preservation.

Scope of Work

To further the worthy goal of preservation, archival research has been performed to determine the Capitol's original design, materials, finishes and colors. The existing site, building exterior and interior have been comprehensively documented. Computerized surveys and photographs have recorded each feature in terms of its architectural significance, functional importance and existing condition. Upon analyzing this data, priorities were established in the form of preservation zones, each based on the importance of the resources surveyed. Preservation design guidelines should be created based on the principle that the most historically and architecturally significant spaces and features should be the subject of the most careful preservation. Similarly, less important spaces and elements would be preserved or compatibly redesigned at a less extensive level, and areas of relative unimportance (such as non-original, more recently created basement rooms), would receive little preservation treatment.

The master plan recommends a policy or procedure for best dealing with changes made to the building and site. Other states have found it advantageous to create a capitol preservation board, committee or agency to holistically review all proposed changes, regardless of their nature or location. Such an agency helps guide improvements so that they enhance rather than detract from the overall character and usefulness of the building. The responsibilities of Utah's Capitol Preservation Board may well be expanded to act in this capacity.

In developing a preservation strategy both for the immediate renovation and longer range improvements, the report incorporates input from the State Preservation Office. Sound preservation principles and such guidelines as "The Secretary of the Interiors Standards for Rehabilitation" have been utilized. As part of the broader renovation/restoration effort, the upgrading and addition of interpretive exhibits to enhance the educational experience of people visiting the Capitol and its grounds has been encouraged.

AN ELOQUENT SYMBOL

When the Territory of Utah petitioned for Statehood successfully in 1895, it evinced a determination to become an integral part of the United States. No longer could it be considered merely a theocratic refuge or a colonial outpost. As it became a state in 1896, it became a full-fledged partner in the nation. The Capitol's design reflects this arrival into the American mainstream by its design.

DESIGN:

Today the gleaming dome that overlooks our capitol city is a powerful symbol of solidarity, community and democratic tradition. As in other state capitols, Utah's dome draws its inspiration from the architectural vocabulary of ancient Greece and Rome. The colonnade, Greek pediment, symmetrical plan and formality of design speak in stone of our democratic ideals. The archetypes also had earlier antecedents in Bramantes Tiempietto of Renaissance Rome. The dome superimposed upon rectangular massing of the capitol reflects the philosophical and artistic legacy of many generations, including Thomas Jefferson's.

FINANCES:

In March 1888 19.46 acres of land were donated by Salt Lake City to the State for its "Capitol Hill." Several additional parcels were purchased to give the Capitol an appropriately ample setting to be prominently viewed, and to provide for future growth on the campus. Today the Capitol site contains 42 acres and serves as a vital urban park. The Capitol project's budget grew significantly from 1909 until the building's completion and occupancy in 1916. In 1909 a bond issue of $1,305,000 was authorized for the Capitol's construction, but later it was reduced to $1,000,000 by the legislature. By the time the architect was selected three years later, the project cost was not to exceed $2,000,000. The approved budget for all costs reached $2.5 million in 1916, a figure that was slightly less than the final cost of about $2,750,000.

The two year campaign to build Utah's first dedicated State Capitol ended in 1911 with the governor's signature. When Edward Harriman, the president of the Union Pacific Railroad, died in 1910, the law required a five percent Utah inheritance tax ($798,546). This unexpected windfall gave the project the initial boost it needed.

TALENT:

From the outset Utah's first Capitol commission was determined to use Utah talent and materials. Fortunately Richard Kletting, an immigrant Utahn, won the competition for architect on March 13, 1912. His design was innovative, simple, dramatic and classical in detail and massing.

Kletting was a meticulous administrator during the Capitol's construction. As the lead designer, he also skillfully guided the three and a half year project through its many challenges and changes. This would be the master architect's last major work.

During the depression, four Utah artists (Lee Greene Richards, Gordon Cope, Henry Rasmussen and Waldo Midgley) recorded the history of Utah in the rotunda murals. Numerous busts and statues displayed in the Capitol's halls and chambers form a distinctive lineup of Utah notables—both as subjects and as artists. Subjects include: Brigham Young, Emmeline B. Wells, Martha Hughes, Unca Sam and Ute Indian Chief John Duncan. Artists include famous Utahns like: Cyrus Dallin, Millard F. Mallin, H.L.A. Culmer and Avard Fairbanks. Altogether, there are approximately 200 pieces of art on display within the Capitol, virtually all by Utah artists.

Displays and plaques remind and educate the public about exemplary Utahns and Utah's interesting cultural history. The beehive sculptures symbolize industry, order and tradition. A memorial plaque to all peace officers who died in the line of duty attests to their heroism. Our heritage comes alive and credit for Utah achievement is acknowleged.

MATERIALS:

The Capitol Commission established by Governor William Spry in 1909 evaluated and used building materials mostly native to Utah. For example, the granite quarries in Little Cottonwood Canyon, the marble from deposits of the Utah Marble and Construction Company, near Newhouse in Beaver County, the onyx or travertine from deposits near Low Pass in Tooele County, the sandstone from quarries in Emigration Canyon, oolite limestone from Sanpete County, and marble from the Birdseye area of Utah county. Many local firms bid on and received contracts for products such as: builders hardware, electrical equipment, a clock network, vacuum cleaner system, furniture and carpets.

STEWARDSHIP:

Renovations and additions to Capitol Hill have been made with an eye to the future and to the past. By mid-century, the State outgrew its office space and needed to consider expanding. The idea of remodeling the State Capitol had been considered necessary for years and the acute shortage of space demanded some solution. Yet "to change the stately dignity and grandeur of the structure was a step nobody wanted to take." In the mid 1950's, however, a group of architects was assigned to plan changes that would bring the capitol up to date. These included: redesigning "the interior layout, leaving the massive partitions, and at the same time rendering the edifice more flexible and more adaptable to modern-day office procedures." Despite these good intentions, many of the changes, especially to the interior, were done at the sacrifice of the Capitol's historic character-defining architectural qualities.

In 1957 the State legislature appropriated funds for a state office building. A master plan to combine aesthetic considerations with those of function and economy was also implemented. In 1957 the legislature appropriated $3,000,000 for the construction of a new office building and $ 741,000 for a remodel of the Capitol. Preliminary plans for a $298,000 cafeteria, a $995,000 connecting plaza and a $200,000 parking facility received unqualified approval of the State Building Board in March 1960. These structures, together with others, form the current Capitol campus.

For Utah's Capitol to continue to symbolize the character and genius of our great State, it must be restored and maintained by the same means as in the past. It must come from the best of Utah's manpower, materials, mentality, and money.